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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR THE MONTH OF DECEMBER, 1941

HAVRE.

Above normal temperatures prevailed during the greater part of the month. Snow began falling on the morning of the 24th, totaling 7.4 inches by the end of the month. Minimum temperatures during this period were from -14° to -29°. Wind movement was high on eight different days during the month. There is an average of 2 inches of snow on fallowed land and 6 inches in stubble, indicating some drifting.

The following is a resume of the climatic records during 1941:

1941		
Annual precipitation	13.05 ins.	11.81 ins. normal
May to August rainfall	6.25 ins.	6.94 " "
Total snowfall	23.9 ins.	36.5 " "
Annual mean temperature	44.3°	42.5° normal
May to August mean temperature	64.9°	63.7° "
Frost free period, May 8 - Sept. 20	135 days	129 days normal
Highest temperature	106°	107° extreme
Lowest temperature	-29°	-48° extreme
Annual wind velocity, 2 ft. anemometer	6.4 MPH	6.2 MPH extreme
May to August wind velocity	6.0 MPH	5.6 MPH extreme
April to September evaporation	35.713 ins.	37.363 ins.

Weeds were burned in the D.L.A. field and also all the B field projects during the early part of the month.

Individual feeding trials, including 75 calves and yearlings, were begun on December 4. Due to the snowfall during the latter part of the month supplemental feeding was necessary for the cow herd. The month was generally quite favorable for feeding livestock.

Maximum temperature, 64°; minimum, -29°; precipitation, .42 inch.

JUDITH BASIN:

Extremes in temperatures were recorded during the month of December. The first week had a high of 61° and the last week a low of -31°. The total precipitation of 0.43 inch was below normal as compared to the December station average of 0.66 inch. The month was very windy and like November recorded a number of days with average daily wind velocities of 10 or more miles per hour; a 16.8 miles per hour average on the 3rd was high. There were some days with considerable soil blowing.

The total precipitation for 1941 was 17.35 inches or 2.59 inches above the 22-year station average. The seasonal rainfall was 14.61 inches or 4.[illegible] inches above the average. Crops, however, suffered for lack of moisture because of poor distribution. Conditions now appear more favorable for the coming crop than they were for the past season.

On December 5 the winter feeding experiment was begun. Thirty-six steer calves after being weighed on three consecutive days for their initial weights were divided into four groups of nine animals each. The calves averaged 4[illegible]7 pounds each. Lot A is receiving native hay with a daily protein supplement of 0.9 pound per steer of soybean pellets. Lot B receives Standard Crested wheatgrass hay (cut before bloom) with the same amount and kind of protein supplement as Lot A. Lot C receives Standard crested wheatgrass hay (cut after bloom) and the same amount and kind of protein supplement as Lots A and B. Lot D receives Standard crested wheatgrass hay (cut after bloom) and 3 pounds per steer a day of cottonseed meal-beet pulp-molasses pellets. (The same type of protein supplement as was used in the 1940 feeding experiment) The T.D.U. (Total Digestible Units) of the protein supplement for all groups are about the same.

Many ranchers were wondering if the native hay group will do better or as well as the group receiving crested wheatgrass. Weights are to be taken at 28-day periods, and the test is scheduled to run for 100 or more days.

Maximum temperature, 61°; minimum, -31°; precipitation, 0.43 inch.

HUNTLEY:

Weather conditions during the first three weeks of December were moderate. Temperatures were relatively mild and precipitation was light and in the form of rain. Wind velocity was somewhat above the average, but at no time was the wind strong enough to start soil drifting. Winter grains remained green throughout the period, and field work such as plowing, threshing beans, corn, and alfalfa seed progressed on neighboring farms.

The last week of the month brought more wintry weather. No plowing was done after December 21 because of frozen soil. Minimum temperatures were mostly below zero, with the lowest recorded at -33° on December 31. This mark was not only the lowest for December but for the year 1941 as well, at this station. Four measurable snowfalls were received in the last 7 days, and at the close of the month there was a 6-inch cover on the ground. The moisture content of the snow was low.

Field work on the dry-land project was limited to miscellaneous jobs such as burning weeds, hauling shelters and fencing materials from the discontinued pastures, and taking notes on fall-sown crops.

Maximum temperature, 63°; minimum, -33°; precipitation, 0.94 inch.

SHERIDAN:

Temperatures were above average for December. The first two thirds of the month was quite warm and the last week was considerably colder than average, with the last temperature reading of the month showing the lowest minimum of the year. Precipitation was about 40 percent above the average for December. There was some snow on the ground the most of the month, the maximum depth being about 4 inches, immediately after a storm on the 4th and from the 25th to the end of the month. Wind movement was slightly below the monthly average, but there were short periods when wind velocities were considerably higher than are usual here. One windstorm resulted in considerable damage to buildings in some nearby localities.

No field work was possible at any time.

Maximum temperature, 72° on the 3rd; minimum, -21° 1/1; precipitation, 0.71 inch.

DICKINSON:

December was a mild, pleasant month without extremes of temperature, wind or precipitation. Mean temperature of 24° was 8° above normal. The lowest temperature recorded was -5° until on the night of the 31st when the minimum dropped to -21°. The maximum was above freezing on 20 days.

Precipitation of 0.21 inch was less than half of normal for the month. This increased the total precipitation for 1941 to 31.14 inches, a new record for the station. This was 200 percent of the 50-year average and 8.4 inches above the previous high in 1914.

Production of crops at the station in 1941 was reduced by hail, but in the district one of the best crops of record was harvested.

MANDAN:

Horticulture: The year 1941 ranked as one of the best from the standpoint of fruit production. Apples and crabs yielded more than in any previous year. Duchess, Red Duchess, Longfield, Anoka, Erickson, Haralson, Hibernal, and Wedge were among the highest yielders. Melba, Marton, and Winton, three new varieties from Canada, bore heavy crops. Melba is a little larger than Duchess, ripens about the same time, is better colored, and of somewhat better quality. It gives promise of being a valuable variety for the plains. Even such semi-hardy varieties as Wealthy and McIntosh bore good crops of fruit. Almost all crabapples bore heavy crops, some of the most prolific being White Arctic, Florence, Sweet Russet, Robin, Dolgo, Alexis, and Dawn. Rosilda, a large red crabapple from Canada, ranks as one of the best.

Plums bore good crops for the most part, although the total yield was not equal to that of 1940. It was a good year for the Japanese hybrids, especially early maturing varieties such as Underwood and Tecumseh. Ember is a later variety of outstanding merit.

Raspberries produced more than in any previous year, and currants, gooseberries, and native fruits all bore heavy crops. A fair crop of grapes was produced. Some of the cherries, pears, and apricots bore light crops.

Many old varieties and inferior selections were discarded in the variety testing blocks in order to make room for testing newer introductions

The year was a good one from the standpoint of fruit breeding, as practically all the older selections bore fruit, and large numbers of new seedlings came into bearing for the first time. Of the older apple selections, Nos. 28-2 and 27-19 appeared to have the most merit. The former is an early yellow apple of medium size, good quality, and a tendency to be very prolific. No. 27-19 is a later apple, large, good red coloring, and of good eating quality. Both should be considered for naming. Of the crabs, Sel. 22 again bore heavily. This is a medium to large red crab that should hold its own with the best. Forty-six new apples or crab selections were made and propagated for further testing. Some of these are bright red crabs resembling Dolgo as to coloring, but larger. One apple, a cross between Duchess and Starking is of very good quality. A number of McIntosh crosses appear to be good.

Of the older plum selections, Nos. 48 and 26-1 bore heavy crops. These are both good native varieties. Three sandcherry-plum hybrids, Nos. 67, 27-1, and 26-4 bore heavy crops of good quality fruit. The first is firm and a good substitute for true cherries. Numbers 26-4 and 27-1 are free-stones and both make good pies. Twenty-five new plum selections were made in the breeding blocks and propagated for further study. Most of these are P. salicum x P. americana hybrids, and many are of large size and good quality. No. 41-22, a cross between Mammoth and Elkhart Heart has red flesh and appears to be superior to Hennepin, an older red-fleshed variety. No. 41-25, a seedling of Emerald, appears to be much larger and better than its parent.

Three new apricot selections were made. These cook up well and appear to have merit, but it is not known how they compare with new varieties of apricots being introduced by other fruit breeding stations.

The Golden currant selections gave a good account of themselves, and most of them can now be eliminated. Five or six of the best are to be saved for further propagation.

Gooseberry selections 20 and 30-4 are two early red selections of promise. Several new selections were made for further testing.

Selections of the native chokecherry were also made, mostly on the basis of size of fruit and clusters. A few good yellow-fruited plants were found.

Grape seedlings in the breeding blocks are severely infested with leaf hoppers and produced but little fruit.

Vegetables: The season on the whole was not favorable for vegetables, although with the exception of wax beans, all produced some yield.

Tomatoes in variety tests were disappointing. A good stand was obtained after setting out in the field and the plants made excellent growth.

The fruit set very late, however, and only about 50% ripened before killing frost.

Asparagus yielded well the first two weeks of May but deteriorated rapidly afterwards, and cutting was stopped May 24, an unusually early date to discontinue harvesting of this crop at the station.

Ornamentals: All classes of ornamentals under observation on the station were on the whole satisfactory - good survival, growth, and florescence. Three new classes of hardy roses were added to tests already under way at the station, namely Subzero roses, climbers, and bush form. These are Wichuraiona hybrids, large flowered hybrid Floribunda roses, and R. setigera hybrids. All grew very well and appeared highly promising for this section.

Weather: The month of December, 1941 was characterized by cloudy and moderately mild days, with very little precipitation. The minimum for the month was -6° on the 10th with below zero minima occurring on only two days, as compared with a minimum a year ago of -18° with below zero minima occurring on 5 days. The maximum temperature for the month was 57° on the 3rd with 5 days having temperatures of 50° or above, as compared to a maximum of 50° in December 1940 occurring on only one day.

0.50 inch of snow fell during the month, with .04 inch precipitation, compared to 4.6 inches of snow and 0.41 inch precipitation in December 1940.

The precipitation for the year to date (through December 27) was been 19.60 inches compared to the 1940 total of 16.14 inches.

DELE FOURCHE:

The weather was comparatively mild and pleasant most of the month. The mean temperature was 4° above normal, and the maximum temperature, 73°, on December 3, was the second highest of record for December. The last week, however, was stormy and cold. Approximately 10 inches of snow, amounting to 0.52 inch precipitation, were received from December 24 to 31, inclusive, and temperature of 0° or colder were recorded on 5 consecutive days, December 27 to 31. Strong winds on December 25 and 31 drifted the snow badly, and the snow cover remaining in cultivated fields is quite variable in depth.

Winter wheat and winter rye were in an active state of growth as late as December 20. The surface soil was very dry, but the crops remained in good condition. The grain was protected by a 1 to 4 inch covering of snow during the subzero weather late in the month.

The total precipitation for 1941 was 22.15 inches, which is 6.60 inches greater than the average for 33 years. The seasonal precipitation 19.69 inches, exceeded the 33-year average for the 6-month period, and it was the fourth greatest of record. The wind movement was below normal every month in 1941, and the average wind velocity for the year was the lowest of record.

Maximum temperature, 73°; minimum, -16°; precipitation, 0.61 inch.

NORTH PLATTE:

Fair weather with mild temperatures prevailed until the 24th. During the last few days of the month there was some snow accompanied by high winds and sub-zero temperatures were recorded on two days. The snowfall in this section of the State was light in comparison to that in the rest of the State. From 14 to 20 inches of snow was reported in many places. Several highways were blocked. No loss of livestock was reported.

The total precipitation for the year was 23.66 inches or 6.65 inches above the 37-year average. This is the most recorded for a year since 1930. 21.05 inches of precipitation and 33.424 inches of evaporation were recorded during the six-month growing period. The evaporation was 4.129 inches below normal. With the exception of the reduction in stands of complete killing out of winter wheat by the freeze in November 1939 this was a very good crop year. With the good soil moisture condition and the excellent condition of the winter wheat at present there is promise of a good crop in 1942.

Maximum temperature, 42°; minimum, -8°; precipitation, 0.42 inch.

AKRON:

December remained open and favorable for finally completing all field work. A start was made gathering scrap metal material when snow about the 20th called a definite halt. This storm also inaugurated the first cold weather of the winter season. A minimum of -9° was recorded, followed by about two days of milder weather, when another cold spell blew in on a brisk northwest wind. There was about 4 to 5 inches of snow on the ground by the end of the month, plenty to be blown and reblown across roadways.

Cattle on feed are doing nicely. Annual reports are about completed. Ground was cracking badly before the snow, and most farmers feel that it will be very beneficial.

Maximum temperature; 71°; minimum, -9°; precipitation, 0.42 inch.

COLBY:

December was a fairly pleasant month up to the 22nd. It snowed 4 inches that day, and snow was reported nearly every day after that until the end of the month. Almost none of the snow melted, and on New Year's day morning 17 inches of snow covered the ground. The snow drifted badly, but even the barest fields have a good covering of snow. There were no bad storms, but Christmas Day and the last day of the year were fairly stormy so that roads were blocked in places. The wind velocity was slightly above normal, but there were no excessively high winds and no soil blowing.

The temperatures were much higher than normal the first three weeks with some unusually warm days. During the last week the temperatures were mostly below freezing and were below zero on three mornings; -4° on the 27th, -10° on the 28th and -9° this morning, New Year's.

All the field work was completed on the DLA plots before the heavy snow. The corn was husked, and the blow furrows were run in the fields and roadways. All the sorghum threshing on the general fields was finished.

Wheat made some growth until covered by the snow but it had been killed down some by the frequent frosts. Even during the warmer weather the first three weeks of the month heavy white frost covered the ground nearly every morning. The ground is not frozen under the snow, however. Most of the thousands of sheep grazing on the wheat were shipped to market during the last 10 days.

Maximum temperature, 70°; minimum, -10°; precipitation, 1.35 inches; snow, 18.3 inches.

Precipitation, 1941: 31.13 inches. 54-year average, 17.57 inches. 1941 was the wettest year on record at this station.

ALTON CITY:

The month was rather mild with the mean temperature about 4° above the long-time average. The lowest temperature since November 13, occurred on the last day of the month when the mercury dropped to . There were a few days with rather high wind velocities. On December during a high wind, the air became very dusty but the storm was short-lived. Only 0.16 inch of precipitation was received during the month as compared with the average of 0.46 inch. However, the month ended damp, as moisture fell on 12 days, 7 of which were traces. The year ended with a total of 26.30 inches of precipitation which is well above the average of 17.10 inches. Only three other times since the records were started in 1908 has this amount been exceeded and those years were 1915, 1923 and 1928.

Sorghum threshing and fall tillage work was completed the first part of the month. After all the yields of sorghum were computed the 1,[illegible]5 bushels of milo as stated in the last report was still high. Some of the yields were reduced considerably by bird damage, which was estimated to be as high as 35 percent on one of the milo plots and 43 percent on one of the kafir plots. The milo on the basin lister project did not fully mature and the test weights ranged from 52.8 to 54.9. However, good yields were received and they are as follows:

	On fallow	Continuous	
	44" rows	44" rows	88" rows
Basin list on contour	53.8	37.8	27.1
Ordinary list on contour	37.1	38.6	24.8
Basin list up and down slope	40.5	26.6	26.7
Ordinary list up and down slope	27.2	20.0	23.8

It is interesting to note the yields of the continuous plots. The 44" row plots on the contour considerably outyielded the 88" row

plots on the contour, whereas the 88" row plots up and down the slope were equal to or better, as in case of the ordinary listed plot up and down the slope, than the 44" row plots. Or in other words when the rows were placed up and down the slope the yields received were as would be expected in dry years and where the rows were placed on the contour the yields were as would be expected in wet years. The low yield of the ordinary listed plot on the contour on fallow as compared with the other fallow plots may partially be due to a difference in soil, for although the four plots are grouped together the soil on the ordinary listed plot on the contour is considerably heavier in spots than the other plots.

Maximum temperature, 71°; minimum, -3°; precipitation, 0.16 inch.

TUCUMCARI:

The precipitation in 1941 was 34.96 inches, the highest in a 36-year record. The normal is 16.08 inches. The absolute maximum temperature was the lowest and the absolute minimum was the highest for any year in the record. Wind movement was below normal for ten of the twelve months. The mean annual temperature was only slightly below normal, as the warm winter months largely offset the cool summer.

Precipitation was so excessive at times that crops were actually retarded by cool temperatures and soggy soil. Before, during and following row-crop harvest crops were damaged by heavy, almost continuous rain. Broomcorn was especially subject to injury, although beans and sorghums also suffered. Sorghum grain was not severely damaged, but fodder was extensively molded, bleached, or blackened. No doubt in this immediate vicinity the crop loss exceeded the average annual production of the preceding seven years.

In spite of heavy crop loss, prospects are very favorable for ranchers and farmers. Wheat pasture is excellent; ranges carry a heavy growth of cured grass; there is an abundance of sorghum grain and roughage, the latter of poor quality, but usable in case of emergency; range land and crop land are well supplied with moisture to normal feeding depth; and price prospects for livestock and crops are favorable.

Sorghum threshing has been slow and difficult. Heads are dry, but heavy fall rains appear to have set or clamped glumes around the kernels. Sufficient separator speed to knock grains cleanly from the heads results in much cracked grain; speed low enough to avoid cracking seed leaves many grains in the glume. Station average yields will be only moderately above normal, far below averages obtained in some past years with much less precipitation.

Tumble weeds cover every fence and in many places have made country roads impassable. Never in the history of eastern New Mexico has there been the mass of sunflowers and tumble weeds now present. With range grass high and dry, fire danger is very great. Throughout this entire area groups including county commissioners, game protective associations, sheriffs' posses, business clubs, and civic organizations have prepared in every conceivable manner to combat quickly any prairie fire which may start.

DALHART:

Rather mild, open winter weather prevailed during the month. Threshing of nurseries and plots was completed. Cowpeas, beans, and several small increase fields of grain sorghums remain to be threshed, and the peanuts are to be picked. In contrast to the sorghums, which have threshed readily, these other crops have remained too tough to thresh all month. The stover on the rotations is to be weighed; and the winter tillage is not done. The corn plots have been husked; an excellent quality of corn was produced and the yields were good.

Normally all the outside field work is completed during December. The two weeks lost in October were never made up, so that nearly that amount of field work remains.

The year 1941 was the wettest on record. The 40.91 inches received in 1941 is more than twice the 34-year average of 17.96 inches. The mean temperature for the year was normal; the maximum was 2° below normal, and the minimum was 2° above normal.

Maximum temperature for the month was 67°; minimum, 4°; precipitation 0.13 inch. The 4° minimum temperature was recorded this morning, January 1; this is the lowest minimum temperature since November 1940.

BIG SPRING:

Weather conditions as a whole were very favorable during the month of December. The minimum temperature was somewhat above normal with only a few days when it dropped below freezing, with 23° the low point, for the winter to date. Rains totaling 1.45 inches were received on two days during the month. This brought the total for the year up to 30.52 inches, with 19.61 of this received during the growing season. This is the fourth highest annual rainfall since 1900. Crops as a whole responded very favorably to this rainfall, with the result that the general average of all plots is the highest in many years.

Station work has consisted mainly of threshing sorghums and picking cotton. Sorghum threshing was completed this week after a rather drawn out period of time devoted to it. Many mornings were damp and foggy, so it was necessary to wait until midmorning before the heads would thresh satisfactorily.

Maximum temperature for the month 80°; minimum, 23°; precipitation, 1.45 inches.

LAWTON:

Mild weather prevailed throughout December with a mean temperature of 43.5°, which was 3.5° above normal. The absence of winter storms was favorable to the maintenance of livestock and the utilization of green feed.

A good many days of cloudy, foggy weather together with five rains that totaled 1.33 inches permitted only a minimum of fall tillage.

Necessary tillage operations on experimental plots was completed early in December, but only a very limited amount of field plowing was possible.

Cotton ginners report that a few bales of scraps remain within the county to be ginned. Comanche County produced only approximately [illegible] bales in 1941. It is estimated that the acreage planted was about [illegible] percent less than in 1940. This acreage reduction was largely due to heavy rains and erosion at planting time. Wet weather during the fall damaged seed to the extent that there is but very little seed in the State of Oklahoma fit for planting purposes.

December labor has been confined largely to repair of machinery, assembly of scrap iron, and repair of station roads that were damaged by the heavy fall rains.

WOODWARD:

Precipitation in December was slightly below normal, but mean temperature and wind velocity were above the 26-year station average. Snowfall measured 1.3 inches, bringing the total for the calendar year to 17.0 inches. Precipitation during 1941 amounted to 41.22 inches exceeding the previous annual high record of 40.68 inches in 1923. Temperature extremes in 1941 were unimportant, with an absolute maximum of 104° and minimum of 4°. The annual mean of 57.6° was 0.6° below normal. Wind velocity for the year averaging 6.8 miles per hour was the lowest in the past decade. Weather conditions in 1941 as a whole contributed to favorable growth and response of cultivated crops, trees, shrubbery, flowers, fruits, vegetables, grasses, and native ranges.

Routine activities involved cleaning peanuts, and sorghums, taking test weights, and tabulation of data. Date of seeding wheat, oats, barley, and rye made on December 1, emerged uniformly December 21. Clipping experiments to determine the amount of pasture produced by small grains are continuing. Fall plowing, listing, subsoiling, and manuring were completed on the 9th. Other general work included repairing machinery, making corral gate hinges, sorting scrap iron, grading roadways and around the new seed barn, and hauling manure.

Parsnips and a few late vegetables were harvested in the garden project. Tomato seed was sorted and germination tests of vegetable seed started. Perennial flower beds were cleaned up and certain replacements made. Some digging, packing, and shipment of nursery material was accomplished. Hardwood cuttings of several species were started in the greenhouse. A number of additional deciduous shrubs and conifers have been transplanted in the vicinity of the reservoir and in the arboretum area. Ten thousand cooperator and accession cards were preserved by filming on a Recordak machine, releasing much needed filing space formerly occupied by duplicates and old, seldom-referred to records. Grass seed threshing and cleaning is continuing in the SCS Nursery project. Two carloads of material for regional distribution were also received during the month.

Grade Hereford yearling steers, for the Range Unit, totaling 310 head furnished by a local rancher under a cooperative arrangement worked out by the Oklahoma Experiment Station were "hot iron" number branded on the right hip, December 2, weighed individually on three consecutive days prior to uniform lotting, 13 heads each in 20 native range pastures, December 9, the average initial weight being 588 pounds. A jack pot lot of 50 head including tops, bottoms, reds, roans, et cetera are being carried in a sand dropseed pasture in the revegetation part of the unit. An additional 100 head of grade Hereford cows were turned into the southwest reserve pasture on December 15 to clean up the accumulation of grass and roughage.

In conformance with the project outline for weighing on the last day of each month, the experimental lots were weighed on the 31st, gaining 17 pounds per head over a 22-day period. The steers received cottonseed cake starting at one pound per head daily.

Maximum temperature, 73°; minimum, 4°; precipitation, 0.58 inch; snowfall, 1.3 inches. Reservoir, 18.7 feet, lowered 0.6 foot to dry up spillway.

PENDLETON:

Considerable field work was done during November, fall plowing was finished, three dates of seeding wheat and Austrian winter peas were put in. Soy Bean and grain sorghums were harvested, these crops were extremely slow in maturing. The grain sorghums when harvested had mature heads and others still in bloom when frost checked their growth. Fall sown wheat is all up with excellent stands and comparatively free of weeds.

A considerable acreage of Austrian winter peas have been seeded in this section under AAA contracts, contract price for peas is 5 cents per pound f.o.b. shipping point. Fortunately these peas had been grown on the station and were able to answer the many inquiries of farmers. The peas are being grown on the additional wheat acreage reduction for 1942, acreages range from 15 to 200 acres per farm.

Precipitation for November was 2.43 inches, the 11 year average 1.44 inches. Precipitation for the 11 months 17.85 inches, normal 12.67 inches. Maximum temperature, 64°; minimum, 22°.

The following average yields were obtained in the rotation experiments in 1941:

Winter wheat after fallow	55.6	Bu. per acre
" " " peas	44.7	" " "
" " " corn	41.7	" " "
" " " pea fallow	57.2	" " "
" " " winter wheat	18.3	" " "

The precipitation for December was 2.47 inches. The precipitation for 1941 was 20.32 inches, the highest since records have been kept at this station.

HAYS:

The weather during the first twenty days of December was generally mild with little precipitation. For most part it was good weather for outside work. After the 20th, temperatures were lower and some precipitation occurred on six different days. Most of the precipitation fell in the form of snow. Since the 23rd the ground has been covered with snow from 1.5 to 3.5 inches deep. This is favorable for the wheat, which is in excellent condition. The creek has been covered with a thin layer of ice for several days.

Maximum temperature for the month 69°. Minimum, 7°. Precipitation, 1.07 inches including 6.7 inches of snow. The total precipitation for the year as recorded by the Weather Bureau rain gage is 28.13 inches. This is 5.54 inches above the normal precipitation for a 73-year period. It is the highest annual precipitation since 1932 when it was 31.66 inches, and it is the second annual precipitation above normal since 1932. In 1940 the annual precipitation was 0.32 inch above normal.

ARCHER:

During the period December 1-21 the weather was mild but cold during the remainder of the month. Precipitation during December was 0.44 inch, which is only slightly more than the 28-year average. The total precipitation during the year was 20.44 inches. This is practically 50 percent more than the 28-year average.

Winter cereals are in good condition and soil moisture is above the average. Feed is plentiful and livestock generally are in good condition.

Maximum temperature, 66°; minimum, -17°; precipitation, 0.44 inch.